CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 84-6

NPDES PERMIT NO. CA0038369
AN ORDER AMENDING ORDER NO. 81-40
TO ADOPT REVISED REQUIREMENTS FOR:

SOUTH BAYSIDE SYSTEM AUTHORITY
SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, finds that:

1. The Regional Board on July 15, 1975 adopted Order No. 75-47, issuing waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System for the South Bayside System Authority, formerly called the Strategic Consolidation Sewarage Plan Authority and hereinafter called the discharger.

2. Order No. 75-47 cited shellfish propagation and harvesting for human consumption as a beneficial use, prescribed effluent limitations intended to protect that use and included times schedules for the discharger to design and construct necessary facilities.

3. The need for facilities capable of protecting shellfish harvesting was expressed in Resolution No. 74-14, adopted by the Regional Board on Ocotober 15, 1974, entitled "Policy Statement with Respect to the Implementation of Time Schedules for Facilities to Protect Shellfish". In accordance with this Resolution and NPDES permits implementing the Resolution, the discharger obtained Clean Water Grant funding for new advanced wastewater treatment facilities. The new tertiary treatment facilities became operational in November 1981.

4. The Regional Board adopted Order No. 81-40 on July 15, 1981 reissuing the discharger's NPDES permit without significant change.

5. Investigation of the potential for recreational shellfish harvesting in San Francisco Bay was authorized by the Board in Resolution No. 78-8, titled "Policy Statement with Respect to the Regional Board Program to Open San Francisco Bay Shellfish Beds for Direct Recreational Use".

6. Approximately $800,000 was spent as part of the Shellfish Program to evaluate problems preventing safe shellfish harvesting within two San Francisco Bay study areas and to identify possible solutions. The San Mateo County area studied included shellfish beds extending from Burlingame to Foster City.

7. The major findings of the Shellfish Program and the Regional Board's policy position on correcting water quality problems that were identified are contained in Resolution No. 83-10 "Policy Statement Concerning the Results of the San Francisco Bay Shellfish Program and Measures Needed to Protect Shellfishing as a Beneficial Use of the Bay".

8. The large shellfish beds located in Foster City were found by the Shellfish Program to be contaminated by coliform bacteria from non-point sources including stormwater runoff.

9. The Cities of San Mateo and Foster City operate a tertiary wastewater treatment plant which discharges approximately one-half mile from the Foster City shellfish beds. South Bayside System Authority operates a similar treatment plant which discharges about 2.5 miles from the Foster City shellfish beds.

10. The Regional Board revised the Cities of San Mateo and Foster City's wastewater treatment requirements in Order No. 82-51. The revision changed the tertiary-level requirements to conventional secondary requirements during the wet season (October - April) when beneficial uses would not be compromised further than they already are by stormwater runoff.

11. The discharger, by reports dated February 18, 1983 and August 2, 1983, has requested revision of certain effluent limitations during both wet and dry weather. The request is based on limited data on local hydrodynamics, available shellfish resources, and degree of seasonal shellfish bed contamination by non-point sources. The proposed changes would allow the discharger to save up to $265,000 annually in operations and maintenance costs.

12. The discharger has also requested an increase in authorized treatment plant capacity from 24.0 mgd to 26.0 mgd. This request is based on actual plant performance data and on committments to provide certain facilities (phases 1 and 2) before reaching design capacity.

13. The Basin Plan Amendments adopted July 21, 1982 allow the Board to consider establishing less stringent coliform effluent requirements where it is demonstrated that beneficial uses will not be compromised by such an action.

14. The Discharger's effluent is discharged through an outfall 1.3 miles offshore into approximately 50 feet of water. Preliminary hydrodynamic and receiving water coliform data indicate that any shellfish beds in the area between Foster City and Redwood Creek could be affected by the discharger's effluent and by other contaminants, primarily coliform bacteria, coming from storm drains, creeks, and lagoon discharges to the Bay. During wet weather shellfish receiving water coliform limits have been violated due to the presence of large volumes of contaminated surface runoff.

15. The discharger has acknowledged that additional information is needed to more precisely determine that the proposed effluent revisions will not compromise protection of designated beneficial uses. The discharger has proposed to conduct special studies in conjunction with this Board, the Department of Fish and Game , and the Aquatic Habitat Program to monitor receiving water impacts during short-term trial periods of operation under the proposed less stringent effluent limitations. Hydrodynamic studies, a shellfish resource inventory, and other related studies would also be conducted.

16. The discharger has been discharging undewatered digested sludge to an adjacent abandoned oxidation pond since February 1982 due to on-going problems with dewatering equipment. This is an unauthorized storage/disposal site subject to separate waste discharge requirements.

17. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be updated at least annually to reflect significant changes in plant facilities or activities. Significant changes have occurred at the treatment plant since the manual was last revised in January 1982.

18. The Regional Board has notified the discharger and interested agencies and persons of its intent to prescribe revised requirements for South Bayside System Authority.

19. The Regional Board, in a public meeting, heard and considered all comments pertaining to this discharge.

20. The issuance of revised waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

IT IS HEREBY ORDERED, that Order No. 81-40 is amended to read as follows:

A. Prohibitions

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.

2. There shall be no bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection system and pump stations tributary to the treatment plant.

3. The average dry weather flow shall not exceed 24.0 mgd. Average shall be determined over three consecutive months each year. This capacity shall be increased to 26.0 mgd upon completion of additional disinfection facilities. This capacity increase shall become effective only upon submission of documentation satisfactory to the Executive Officer demonstrating adequate performance, reliability, and capacity.

B. Effluent Limiations:

1(a) The discharge of an effluent containing constituents in excess of the following limits is prohibited, except as provided in 1(b) and 1(c):

Constituent	Units	30-Day Average	7-Day Average	Maximum Daily	Instantaneous Maximum
Settleable matter	ml/l-hr	0.1	-	-	0.2
BOD	mg/l	10	15	20	-
Suspended Solids	mg/l	8	12	16	-
Grease & Oil	mg/l	10	-	20	-
Chlorine Residual	mg/l	-	-	-	0.0
Turbidity	JTU	10	-	20	-

(b) During the months of October through April inclusive, the following effluent limitations shall apply. Subject to Executive Officer approval of an acceptable plan of study, the following limits may also apply to periods of special receiving water monitoring studies during the months of May through September 1984, inclusive.

Constituents	Units	30-Day Average	7-Day Average	Maximum Daily	Instantaneous Maximum
Settleable matter	ml/l-hr	0.1	-	-	0.2
BOD	mg/l	20	30	40	-
Suspended Solids	mg/l	16	24	32	-
Grease & Oil	mg/l	10	-	20	-
Chlorine Residual	mg/l	-	-	-	0.0
Turbidity	JTU	20	-	40	-

(c) During the months of October 1984 through April 1985 inclusive, after submittal of a receiving water monitoring study plan acceptable to the Executive Officer, the following effluent limitations shall apply:

Constituent	Units	30-Day Average	7-Day Average	Maximum Daily	Instantaneous Maximum
Settleable matter	ml/l-hr	0.1	-	-	0.2
BOD	mg/l	25	35	50	-
Suspended Solids	mg/l	25	35	50	-
Grease & Oil	mg/l	10	-	20	-
Chlorine Residual	mg/l	-	-	-	0.0

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).

3. The discharge shall not have pH of less than 6.0 nor greater than 9.0.

4. In any representative set of samples the waste as discharged shall meet the following limit of quality for toxicity:

   The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall be a 90 percentile value of not less than 50 percent survival based on the ten most recent consecutive samples.

5. Representative samples of the effluent shall not exceed the following limits more than the percentage of time indicated: 1/

Constituent	Unit of Measurement	6 month median	Daily Maximum
Arsenic	mg/l	0.01	0.02
Cadimum	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Identifiable Chlorinated Hydrocarbons	mg/l(kg/day) 2/	0.002 (0.178)	0.004 (0.356)

1/These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

2/Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

6(a) Except as noted in 6(b) and 6(c), effluent total coliform shall not exceed a seven (7) sample median of 2.2 MPN/100 ml based on any seven consecutive samples. Any single sample shall not exceed 23 MPN/100 ml.

(b) During the months of October through April inclusive, or during any Executive Officer approved receiving water monitoring studies extending no longer than May through September 1984, effluent total coliform shall not exceed a seven (7) sample median of 23 MPN/100 ml nor a maximum of 240 MPN/100 ml.

(c) During the months of October 1984 through April 1985 inclusive, after submittal of a receiving water monitoring study plan acceptable to the Executive Officer, effluent total coliform shall not exceed a seven (7) sample median of 240 MPN/100 ml nor a maximum of 1000 MPN/100 ml.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place.

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved sulfide	0.1 mg/l maximum
c.	pH	Variation from natural ambient pH by more than 0.5 pH units.
d.	Un-ionized ammonia as N	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum at any time

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modifiy this Order in accordance with such more stringent standards.

D. Sludge Storage Requirements

1. The discharge or processing of sewage sludge shall not cause waste material to be in any position where it is, or can be, carried from the site and deposited in waters of the State.

2. Any sludge storage site shall have facilities adequate to divert surface runoff from adjacent area, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the storage site. Adequate protection is defined as protected from at least a 100-year storm and from the highest tidal stage that may occur.

3. Permanent sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencing any such activity.

E. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 81-40, adopted by this Board on July 15, 1981.

2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

   Mass Emission Limit in lbs/day = Concentration limit in mg/l X 8.34 X Actual Flow in mgd Averaged Over the Time Interval to which the Limit Applies.

3. The discharger shall comply with all sections of this Order immediately upon adoption.

4. The discharger shall provide a plan and time schedule by April 1, 1984 for removing to an authorized disposal site all sludge discharged to the old Redwood shores oxidation ponds. Clean-up shall be completed no later than October 1, 1984.

5. The discharger shall provide a plan and time schedule by December 1, 1984 for construction of additional facilities to increase the plant capacity to 26 mgd and 30 mgd respectively.

6. The discharger shall review and update his Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. A time schedule for completion of the initial revision shall be submitted by March 1, 1984. Documentation of operator input and review should accompany each annual update.

7. The discharger shall review and update by April 15 of each year its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

8. The discharger is required to effectively implement a pretreatment program under the authority of Section 307(b) and 402(b)(8) of the Clean Water Act. As part of this responsibility the discharger shall ensure compliance with pretreatment standards promulgated under Section 307(b) and (c) of the Clean Water Act:

   (a) Compliance by existing industrial sources with pretreatment standards shall be within 3 years of the date of promulgation of the standard unless a shorter compliance time is specified.

(b) Compliance by new sources of industry with promulgated pretreatment standards shall be required upon commencement of discharge.

9. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

10. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977.

11. This Order expires July 15, 1986. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the Califoria Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

12. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 18, 1984.

ROGER B. JAMES
Executive Officer